Weston Solutions, Inc.
Suite 201
1090 King Georges Post Road
Edison, New Jersey 08837-3703
732-585-4400 • Fax: 732-225-7037
www.westonsolutions.com

The Trusted Integrator for Sustainable Solutions

REMOVAL SUPPORT TEAM 2
EPA CONTRACT EP-W-06-072

September 20, 2013

Ms. Kimberly Staiger, On-Scene Coordinator
U.S. Environmental Protection Agency
Removal Action Branch
2890 Woodbridge Avenue
Edison, NJ 08837

EPA CONTRACT NO: EP-W-06-072
TDD NO: TO-0029-0031
DOCUMENT CONTROL NO: RST2-02-F-2547
SUBJECT: FINAL SOIL SAMPLING TRIP REPORT – BARTH SMELTING CORPORATION SITE – PROPERTY P002 (TERRELL HOMES), NEWARK, ESSEX COUNTY, NEW JERSEY

Dear Ms. Staiger:

Enclosed please find the Final Soil Sampling Trip Report for the sampling event conducted at the Terrell Homes housing complex (Terrell Homes) portion of the Barth Smelting Corporation Site located at 59-97 Chapel Street, Newark, Essex County, New Jersey. Soil samples were collected on August 14, 2013 as part of the Removal Assessment of the Terrell Homes. The U.S. Environmental Protection Agency comments regarding the draft version of the report have been incorporated. If you have any questions or comments, please contact me at (732) 585-4441.

Sincerely,

WESTON SOLUTIONS, INC.

Dipa Chawla
For Scott T. Snyder, CHMM
RST 2 Site Project Manager/Group Leader

Enclosure
cc: TDD File No.: TO-0029-0031

243409

FINAL SOIL SAMPLING TRIP REPORT

SITE NAME: Barth Smelting Corporation Site – Property P002 (Terrell Homes)
DC No.: RST2-02-F-2547
TDD No.: TO-0029-0031

SAMPLING DATE: August 14, 2013

EPA ID NO.: NJN008010373

SITE LOCATION: Barth Smelting Corporation Site – Property P002 (Terrell Homes)
27 Riverview Terrace, Newark, Essex County, New Jersey
(Refer to Attachment A, Figure 1 – Site Location Map)

1. Sample Summary:

As part of the Removal Assessment, Weston Solutions, Inc., Removal Support Team 2 (RST 2) conducted a sampling event at the Barth Smelting Corporation Site (the Site) to assess the extent of contamination at the Terrell Homes housing complex (Terrell Homes) located at 27 Riverview Terrace, Newark, New Jersey, adjacent to the footprint of the former Barth Smelting facility. During the August 14, 2013 sampling event, RST 2 collected a total of 11 soil samples, including one field duplicate, from the grass-covered area located southeast of the Terrell Homes/99 Chapel Street property boundary. All soil samples were collected using dedicated plastic scoops. The 11 soil samples were submitted to the U.S. Environmental Protection Agency (EPA), Region II, Division of Environmental Science and Assessment (DESA) laboratory located in Edison, New Jersey for target analyte list (TAL) metals, including mercury and tin, analysis. Refer to Attachment B, Table 1 for sample collection information.

2. Laboratory Receiving Samples:

The following laboratory was utilized during the August 2013 soil sampling event:

Sample Matrix	Analysis	Laboratory
Soil	TAL Metals (including Hg and Sn)	EPA, Region II DESA Laboratory 2890 Woodbridge Ave. Building 209, MS-230 Edison, NJ 08837

TAL = Target Analyte List
Hg = Mercury
DESA = Division of Enviromental Science and Assessment
Sn = Tin
EPA = U.S. Environmental Protection Agency

3. Sample Dispatch Data:

On August 14, 2013, RST 2 hand-delivered 11 soil samples, including one field duplicate, to the EPA DESA laboratory located in Edison, New Jersey for TAL metals, including mercury and tin, analysis. All samples collected on August 14, 2013 were delivered under Chain of Custody (COC) Record Number 2-081413-134543-0006.

4. On-Site Personnel:

Name	Representing	Duties On-Site
Kimberly Staiger	EPA, Region II	On-Scene Coordinator
Dipanjali Chavan	RST 2, Region II	Filed Coordinator, Sampler, Site Health & Safety, Sample Management, Site QA/QC, and Global Positioning System (GPS) Data Collection
Michael Brogan	PennJersey Environmental	Observe and document EPA activities for property owner of 99 Chapel Street

5. Site Background and Description:

The Site is located in the Ironbound section of Newark, New Jersey, adjacent to the Passaic River. The Ironbound section of Newark is historically an industrialized neighborhood. The area of the Site under investigation has been industrialized since the late 1800s. The property located at 99 Chapel Street (Property P001) is currently occupied by various maritime shipping and maintenance facilities. The Site is defined as the historic footprint of the Barth Smelting facility (Block 2442, Lots 10 - 12) and the extent of contamination. This includes the 99-129 Chapel Street property (Block 2442, Lots 10, 11, and 12) and the Terrell Homes property located at 59-97 Chapel Street. Barth Smelting Corp. was in operation from at least 1946 until approximately 1982, and produced brass and bronze ingots and also worked with non-ferrous metals. Prior operators include General Lead Batteries, a manufacturer of lead acid batteries, and the New Jersey Zinc and Iron Company, a former zinc smelter. Barth Smelting Corp. was listed as an unrecognized Battery Lead Smelter site with a paper titled "Discovering Unrecognized Lead Smelting Sites by Historical Methods" written by William Eckel et al, and published in the American Journal of Public Health, April 2001; however, several resources exist labeling Barth Smelting Corp. as a secondary copper smelting facility. The New Jersey Zinc and Iron Company, also known as Newark Zinc Works, formerly operated on the property now occupied by the Newark Housing Authority's Terrell Homes (Block 2442, Lot 1) and also on the property formerly occupied by Barth Smelting Corp (Block 2442, Lots 10, 11, and 12). Newark Zinc Works was one of the first commercial zinc oxide plants in the United States and operated on Chapel Street from 1848 to 1910. In 1946, the Millard E. Terrell Homes, a family development with 275 units, was constructed on the property formerly occupied by the New Jersey Zinc and Iron Company. A playground and grass-covered play area are located on housing authority property just beyond the cinder block fence that separates the 99 Chapel Street portion of the Site and the apartment complex. Additional residential properties are located across Chapel Street to the east.

6. Sample Collection Methodology

During the August 14, 2013 sampling event, RST 2 collected a total of 11 soil samples from five sample locations within the grassy area located along the 99 Chapel Street and Terrell Homes property line. Samples were collected from two depth intervals 0-1 inch and 1-6 inches below ground surface at each sample location using dedicated plastic scoops. Soil boring locations were recorded electronically using Global Positioning System (GPS) technology.

Soil samples were collected in 4-ounce (oz.) jars, as requested by the EPA DESA laboratory. Field duplicate and matrix spike/matrix spike duplicate (MS/MSD) samples were collected at a rate of one per 20 soil samples. Samples collected from the 0- to 1-inch interval were designated for sieving by the laboratory using a 250-micron sieve and steel pan. After the samples were collected, the sample information was entered into the Scribe sample management database from which sample labels and the COC Record was prepared and printed. The COC Record is presented in Attachment D.

7. Analytical Results

Soil sample analytical results for the August 14, 2013 sampling event indicated the presence of lead at concentrations that exceed the New Jersey Department of Environmental Protection's (NJDEP) Residential Direct Contact Soil Remediation Standards (RDCSRS) of 400 milligrams per kilogram (mg/kg) in all 11 samples collected from the five sample locations; these elevated concentrations range from 1,200 mg/kg to 9,800 mg/kg. The highest concentration was detected in a soil sample collected from sample location P002-SS072 (depth: 0-1 inch). Arsenic, cadmium, copper, manganese, and zinc were also detected at concentrations above their respective NJDEP RDCSRS.

Tin was detected in 10 of the 11 soil samples collected during the August 14, 2013 sampling event. A NJDEP RDCSRS criteria for tin has not been established. Refer to Attachment C, Table 2 for a summary of the TAL metals analytical data.

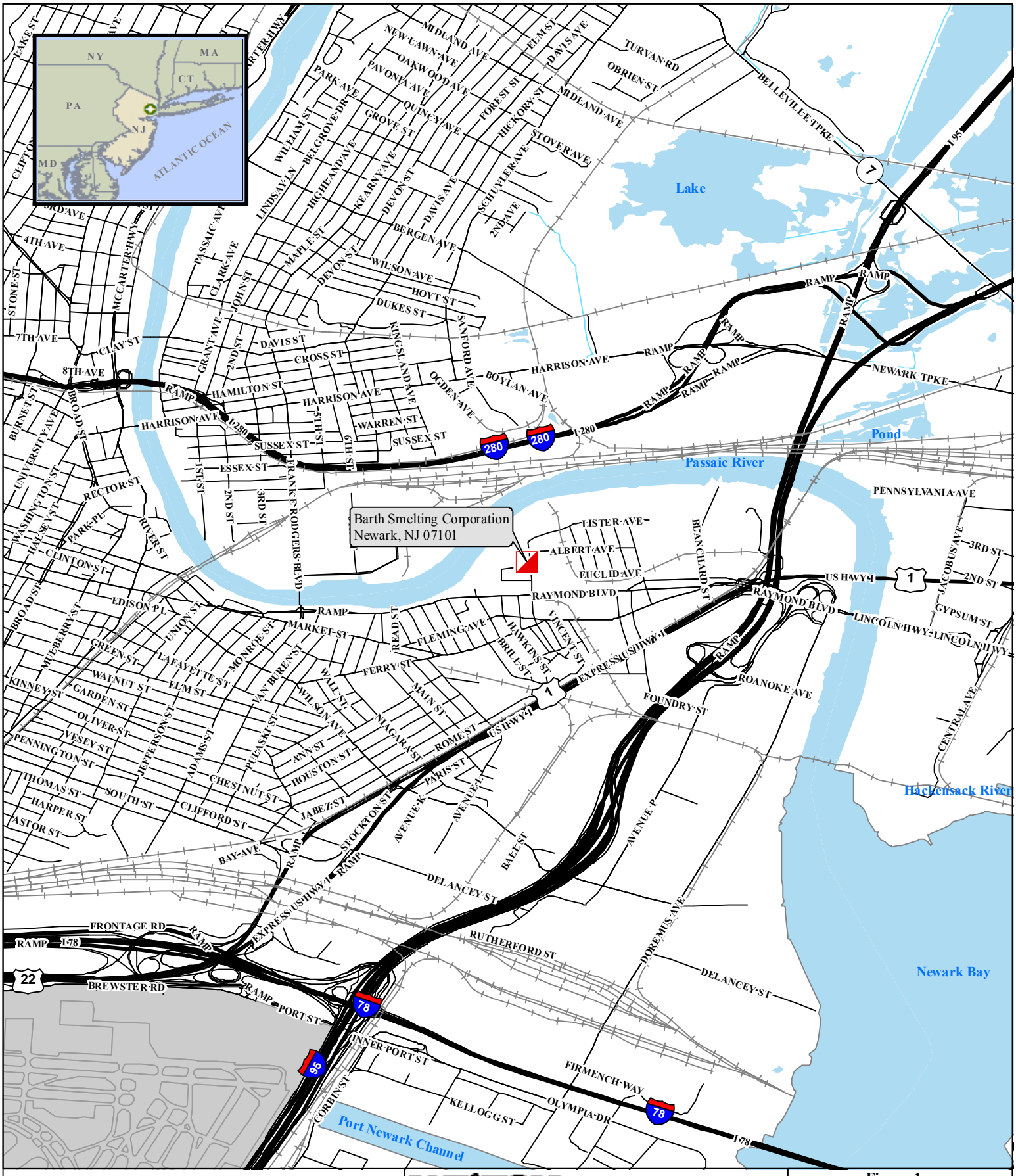
For reference purposes of this report, Attachment A contains the Site Location Map (Figure 1) and the Sample Location and Analytical Data Map (August 2013) (Figure 2); Attachment B contains the Photo Documentaion Log; Attachment C contains sample collection information (Table 1) and a target analyte list metals data summary table (August 2013) (Table 2); and Attachment D contains the sample analytical results and the COC Record.

8. Report Prepared by: Dipa Chawan for Scott T. Snyder, CHMM — Date: 9/20/13
RST 2 Site Project Manager/Group Leader

Report Reviewed by: _____ — Date: 9/20/13
Timothy Benton, CHMM
RST 2 Operations Leader

ATTACHMENT A

Figure 1: Site Location Map
Figure 2: Sample Location and Analytical Data Map (August 2013)



Legend

Site Location

0 0.075 0.15 0.3 0.45 0.6 Miles

N

Weston Solutions, Inc.
Northeast Division

In Association With
H & S Environmental, Inc.,
Scientific and Environmental Associates, Inc.
and Avatar Environmental, LLC.

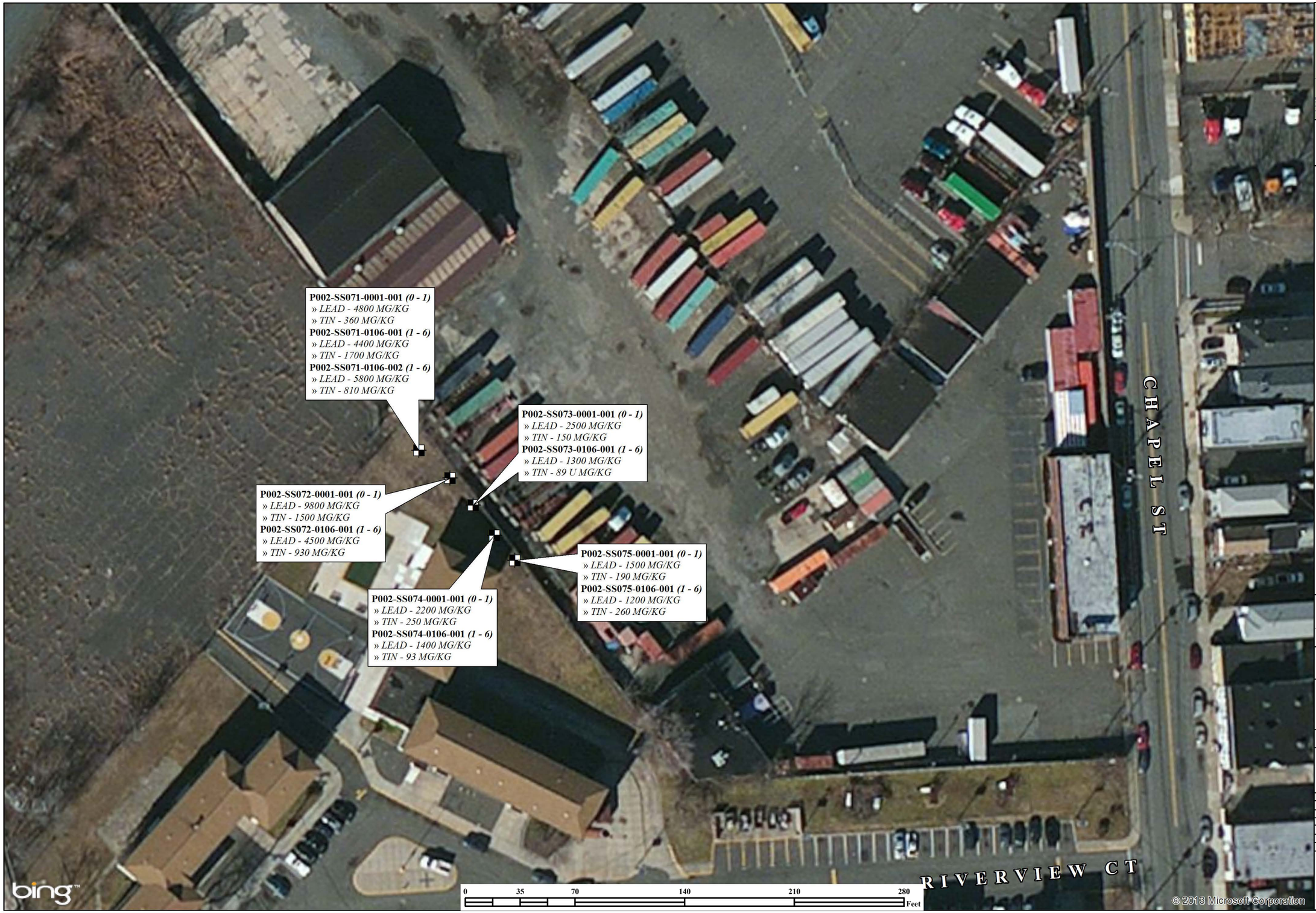
Figure 1
Site Location Map

Barth Smelting Corporation Site
Newark, New Jersey

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL SUPPORT TEAM 2
CONTRACT # EP-W-06-072

GIS ANALYST:	T. BENTON
EPA OSC:	K. STAIGER
RST SPM:	S. SNYDER
FILENAME:	SITEMAP.MXD

DATE MODIFIED: 12/6/2012



SCALE

1:700

LEGEND

Soil Sample Location

Chemical Name	Residential Direct Contact Soil Remediation Standard
Lead	400
Tin	---

--- Level Not Specified

NOTE(S):
» ALL SAMPLE DEPTHS ARE DEPICTED IN INCHES AND ARE DISPLAYED IN PARENTHESIS
» RDCSRS STANDARDS ARE PRESENTED IN MG/KG
» MG/KG - MILLIGRAM PER KILOGRAM

Figure 2: Sample Location and Analytical Data Map (August 2013)

BARTH SMELTING CORPORATION
NEWARK, NEW JERSEY

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REMOVAL SUPPORT TEAM 2
CONTRACT # EP-W-06-072

Weston Solutions, Inc.

In Association With
Scientific and Environmental Associates, Inc.,
H & S Environmental, Inc. &
Avatar Environmental, LLC

GIS ANALYST:	F. CAMPBELL
EPA OSC:	K. STAIGER
RST 2 SPM:	S. SNYDER
FILENAME:	SMPEVT_2013_08_14.MXD
FIGURE	2
REVISION	0
DATE MODIFIED	9/17/2013

WESTON SOLUTIONS

ATTACHMENT B

Photo Documentation Log

Attachment B - Photo Documentation Log
Barth Smelting Corporation Site
Newark, Essex County, New Jersey
August 14, 2013

Photo 1: Sample Location P002-SS071.

Photo 2: Sample Location P002-SS072.

Photo 3: Sample Location P002-SS073.

Photo 4: Sample Location P002-SS074.

Photo 5: Sample Location P002-SS075.

Photo 6: Sample Location P002-SS075.

ATTACHMENT C

Table 1: Sample Collection Information – August 14, 2013
Table 2: Target Analyte List Metals Data Summary – August 14, 2013

Table 1
Sample Collection Information
Barth Smelting Corporation - Property P002 (Terrell Homes)
August 14, 2013

Sample No.	Sample Date	Sample Time	Matrix	Collection	Sample Type	Depth From (inches)	Depth To (inches)	Remarks
P002-SS071-0001-001	8/14/2013	9:50	Soil	Grab	MS/MSD	0	1	N/A
P002-SS071-0106-001	8/14/2013	9:56	Soil	Grab	Field Sample	1	6	N/A
P002-SS071-0106-002	8/14/2013	9:57	Soil	Grab	Field Duplicate	1	6	N/A
P002-SS072-0001-001	8/14/2013	10:05	Soil	Grab	Field Sample	0	1	N/A
P002-SS072-0106-001	8/14/2013	10:10	Soil	Grab	Field Sample	1	6	N/A
P002-SS073-0001-001	8/14/2013	10:17	Soil	Grab	Field Sample	0	1	N/A
P002-SS073-0106-001	8/14/2013	10:20	Soil	Grab	Field Sample	1	6	N/A
P002-SS074-0001-001	8/14/2013	10:25	Soil	Grab	Field Sample	0	1	N/A
P002-SS074-0106-001	8/14/2013	10:50	Soil	Grab	Field Sample	1	6	N/A
P002-SS075-0001-001	8/14/2013	10:40	Soil	Grab	Field Sample	0	1	N/A
P002-SS075-0106-001	8/14/2013	10:47	Soil	Grab	Field Sample	1	6	N/A

N/A = Not Applicable.
MS/MSD = Matrix Spike / Matrix Spike Duplicate

Table 2
Target Analyte List Metals Data Summary
Barth Smelting Corporation Site - Property P002 (Terrell Homes)
August 14, 2013

RST 2 Sample ID	NJDEP's Residential	P002-SS071-0001-001		P002-SS071-0106-001		P002-SS071-0106-002		P002-SS072-0001-001		P002-SS072-0106-001		P002-SS073-0001-001		P002-SS073-0106-001		P002-SS074-0001-001		P002-SS074-0106-001		P002-SS075-0001-001		P002-SS075-0106-001	
Sample Date	Direct Contact Soil	8/14/2013		8/14/2013		8/14/2013		8/14/2013		8/14/2013		8/14/2013		8/14/2013		8/14/2013		8/14/2013		8/14/2013		8/14/2013	
Sample Depth (inches)	emediation Standard (RDCSR	0 - 1		1 - 6		1 - 6		0 - 1		1 - 6		0 - 1		1 - 6		0 - 1		1 - 6		0 - 1		1 - 6	
Chemical Name																							
Aluminum	78,000	7900		9600		6700		8400		6600		7500		9400		7300		6700		10000		15000	
Antimony	31	200	U	200	U	190	U	180	U	190	U	180	U	180	U	180	U	180	U	180	U	170	U
Arsenic	19*	79	U	79	U	78	U	73	U	75	U	83		73		74	U	72	U	73	U	69	U
Barium	16,000	980	U	990	U	970	U	920	U	940	U	910	U	890	U	920	U	900	U	910	U	870	U
Beryllium	16	30	U	30	U	29	U	27	U	28	U	27	U	27	U	28	U	27	U	27	U	26	U
Cadmium	78	30	U	30	U	29	U	240		140		27	U	27	U	28	U	27	U	31		26	U
Calcium	Not Established	5000		5000	U	4900	U	6800		13000		4700		9400		9000		20000		7200		26000	
Chromium	Not Established	62		70		65		57		47	U	46	U	44	U	49		45	U	60		59	
Cobalt	1,600	200	U	200	U	190	U	180	U	190	U	180	U	180	U	180	U	180	U	180	U	170	U
Copper	3,100	6300		25000		12000		24000		14000		2200		1300		3500		1500		3900		2300	
Iron	Not Established	46000		29000		31000		31000		29000		99000		93000		62000		120000		59000		59000	
Lead	400	4800		4400		5800		9800		4500		2500		1300		2200		1400		1500		1200	
Magnesium	Not Established	4900	U	5000	U	4900	U	4600	U	4700	U	4600	U	4500		4600	U	7400		4500	U	10000	
Manganese	11,000	4500		2300		2900		5700		7500		34000		41000		21000		55000		26000		39000	
Nickel	1,600	200	U	250		190	U	260		190	U	180	U	180	U	180	U	180	U	330		170	U
Potassium	Not Established	4900	U	5000	U	4900	U	4600	U	4700	U	4600	U	4400	U	4600	U	4500	U	4500	U	4300	U
Selenium	390	200	U	200	U	190	U	180	U	190	U	180	U	180	U	180	U	180	U	180	U	170	U
Silver	390	49	U	50	U	49	U	46	U	47	U	46	U	44	U	46	U	45	U	45	U	43	U
Sodium	Not Established	9800	U	9900	U	9700	U	9200	U	9400	U	9100	U	8900	U	9200	U	9000	U	9100	U	8700	U
Thallium	5	200	U	200	U	190	U	180	U	190	U	180	U	180	U	180	U	180	U	180	U	170	U
Tin	Not Established	360		1700		810		1500		930		150		89	U	250		93		190		260	
Vanadium	78	200	U	200	U	190	U	180	U	190	U	180	U	180	U	180	U	180	U	180	U	170	U
Zinc	23,000	15000		23000		23000		65000		53000		42000		38000		27000		45000		42000		36000	
Mercury	23	0.57		0.48		0.45		1.1		0.49		0.18		0.041	U	0.48		0.039	U	0.41		0.14	

Notes:
All results are presented in milligrams per kilogram (mg/kg).
U = Non-Detect at or Above the Reporting Limit.
* The direct contact standard for arenic is based on natural background.
Concentrations that meet or exceed their respecive NJDEP's RDCSRS are highlighted.

ATTACHMENT D

Sample Analytical Results and Chain of Custody Record

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory
2890 Woodbridge Avenue
Edison , New Jersey 08837
732-906-6886 Phone
732-906-6165 Fax

September 10, 2013

Smita Sumbaly
Weston Solutions Inc.
1090 King Georges Post Road, Suite 201
Edison, NJ 08837

RE: Barth Smelting Co. - 1308036

Enclosed are the results of analyses for samples received by the laboratory on 08/14/2013. The signature below reflects the laboratory's approval of the reported results. If you have any questions concerning this report, please refer to Project Number 1308036 and contact John Birri by phone at 732-906-6886, or via Email at birri.john@epa.gov.

Sincerely,

John R. Bourbon
Chief, DESA/LB

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Project:Barth Smelting Co. - 1308036

Project Number: 1308036

Project Narrative:

The National Environmental Laboratory Accreditation Conference Institute (TNI) is a voluntary environmental laboratory accreditation association of State and Federal agencies. TNI established and promoted a National Environmental Laboratory Accreditation Program (NELAP) that provides a uniform set of standards for the generation of environmental data that are of known and defensible quality. The EPA Region 2 Laboratory is NELAP accredited. The Laboratory tests that are accredited have met all the requirements established under the TNI Standards.

Condition Comments

All samples were diluted 100 times due to extremely difficult sample matrix interference when performing ICP analysis. Al, Cu, Fe, Pb, Mn, Zn and Sn are all reportable values, except for one sample (1308036-07 with Field ID P002-SS073-0106-001) has Sn value of less than 89 mg/Kg.

Comment(s):

None

Data Qualifier(s):

U- The analyte was not detected at or above the Reporting Limit.
J- The identification of the analyte is acceptable; the reported value is an estimate.
K- The identification of the analyte is acceptable; the reported value may be biased high.
L- The identification of the analyte is acceptable; the reported value may be biased low.
NJ- There is presumptive evidence that the analyte is present; the analyte is reported as a tentative identification. The reported value is an estimate.

Reporting Limit(s):

The Laboratory was able to achieve the appropriate limits for each analyte requested.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Project:Barth Smelting Co. - 1308036

Project Number: 1308036

SUMMARY REPORT FOR SAMPLES

Field ID	Laboratory ID	Matrix	Date Sampled	Date Received
P002-SS071-0001-001	1308036-01	Solid	08/14/2013 09:50	08/14/2013 15:45
P002-SS071-0106-001	1308036-02	Solid	08/14/2013 09:56	08/14/2013 15:45
P002-SS071-0106-002	1308036-03	Solid	08/14/2013 09:57	08/14/2013 15:45
P002-SS072-0001-001	1308036-04	Solid	08/14/2013 10:05	08/14/2013 15:45
P002-SS072-0106-001	1308036-05	Solid	08/14/2013 10:10	08/14/2013 15:45
P002-SS073-0001-001	1308036-06	Solid	08/14/2013 10:17	08/14/2013 15:45
P002-SS073-0106-001	1308036-07	Solid	08/14/2013 10:20	08/14/2013 15:45
P002-SS074-0001-001	1308036-08	Solid	08/14/2013 10:25	08/14/2013 15:45
P002-SS074-0106-001	1308036-09	Solid	08/14/2013 10:50	08/14/2013 15:45
P002-SS075-0001-001	1308036-10	Solid	08/14/2013 10:40	08/14/2013 15:45
P002-SS075-0106-001	1308036-11	Solid	08/14/2013 10:47	08/14/2013 15:45

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Project:Barth Smelting Co. - 1308036

Project Number: 1308036

SUMMARY REPORT FOR METHODS

Analysis	Method	Certification	Matrix
Mercury	EPA 245.1 / SOP C-110 Rev2.3	NELAP	Solid
E-Metals ICP TAL	EPA 200.7 / SOP C-109 Rev3.2	NELAP	Solid

Project:Barth Smelting Co. - 1308036

Project Number: 1308036

Analyte	Result	Qualifier	Reporting Limit	Units
Field ID: P002-SS071-0001-001			Sample ID: 1308036-01	
Metals ICP				
Aluminum	7900		980	mg/kg dry
Antimony	---	U	200	mg/kg dry
Arsenic	---	U	79	mg/kg dry
Barium	---	U	980	mg/kg dry
Beryllium	---	U	30	mg/kg dry
Cadmium	---	U	30	mg/kg dry
Calcium	5000		4900	mg/kg dry
Chromium	62		49	mg/kg dry
Cobalt	---	U	200	mg/kg dry
Copper	6300		98	mg/kg dry
Iron	46000		490	mg/kg dry
Lead	4800		79	mg/kg dry
Magnesium	---	U	4900	mg/kg dry
Manganese	4500		49	mg/kg dry
Nickel	---	U	200	mg/kg dry
Potassium	---	U	4900	mg/kg dry
Selenium	---	U	200	mg/kg dry
Silver	---	U	49	mg/kg dry
Sodium	---	U	9800	mg/kg dry
Thallium	---	U	200	mg/kg dry
Tin	360		98	mg/kg dry
Vanadium	---	U	200	mg/kg dry
Zinc	15000		200	mg/kg dry

Project:Barth Smelting Co. - 1308036

Project Number: 1308036

Analyte	Result	Qualifier	Reporting Limit	Units
Field ID: P002-SS071-0001-001			Sample ID: 1308036-01	
Mercury CVAA				
Mercury	0.57		0.048	mg/kg dry
Field ID: P002-SS071-0106-001			Sample ID: 1308036-02	
Metals ICP				
Aluminum	9600		990	mg/kg dry
Antimony	---	U	200	mg/kg dry
Arsenic	---	U	79	mg/kg dry
Barium	---	U	990	mg/kg dry
Beryllium	---	U	30	mg/kg dry
Cadmium	---	U	30	mg/kg dry
Calcium	---	U	5000	mg/kg dry
Chromium	70		50	mg/kg dry
Cobalt	---	U	200	mg/kg dry
Copper	25000		99	mg/kg dry
Iron	29000		500	mg/kg dry
Lead	4400		79	mg/kg dry
Magnesium	---	U	5000	mg/kg dry
Manganese	2300		50	mg/kg dry
Nickel	250		200	mg/kg dry
Potassium	---	U	5000	mg/kg dry
Selenium	---	U	200	mg/kg dry
Silver	---	U	50	mg/kg dry
Sodium	---	U	9900	mg/kg dry

Project:Barth Smelting Co. - 1308036

Project Number: 1308036

Analyte	Result	Qualifier	Reporting Limit	Units
Field ID: P002-SS071-0106-001				Sample ID: 1308036-02
Metals ICP				
Thallium	---	U	200	mg/kg dry
Tin	1700		99	mg/kg dry
Vanadium	---	U	200	mg/kg dry
Zinc	23000		200	mg/kg dry
Mercury CVAA				
Mercury	0.48		0.044	mg/kg dry
Field ID: P002-SS071-0106-002				Sample ID: 1308036-03
Metals ICP				
Aluminum	6700		970	mg/kg dry
Antimony	---	U	190	mg/kg dry
Arsenic	---	U	78	mg/kg dry
Barium	---	U	970	mg/kg dry
Beryllium	---	U	29	mg/kg dry
Cadmium	---	U	29	mg/kg dry
Calcium	---	U	4900	mg/kg dry
Chromium	65		49	mg/kg dry
Cobalt	---	U	190	mg/kg dry
Copper	12000		97	mg/kg dry
Iron	31000		490	mg/kg dry
Lead	5800		78	mg/kg dry
Magnesium	---	U	4900	mg/kg dry
Manganese	2900		49	mg/kg dry
Nickel	---	U	190	mg/kg dry

Project:Barth Smelting Co. - 1308036

Project Number: 1308036

Analyte	Result	Qualifier	Reporting Limit	Units
Field ID: P002-SS071-0106-002			Sample ID: 1308036-03	
Metals ICP				
Potassium	---	U	4900	mg/kg dry
Selenium	---	U	190	mg/kg dry
Silver	---	U	49	mg/kg dry
Sodium	---	U	9700	mg/kg dry
Thallium	---	U	190	mg/kg dry
Tin	810		97	mg/kg dry
Vanadium	---	U	190	mg/kg dry
Zinc	23000		190	mg/kg dry
Mercury CVAA				
Mercury	0.45		0.039	mg/kg dry
Field ID: P002-SS072-0001-001			Sample ID: 1308036-04	
Metals ICP				
Aluminum	8400		920	mg/kg dry
Antimony	---	U	180	mg/kg dry
Arsenic	---	U	73	mg/kg dry
Barium	---	U	920	mg/kg dry
Beryllium	---	U	27	mg/kg dry
Cadmium	240		27	mg/kg dry
Calcium	6800		4600	mg/kg dry
Chromium	57		46	mg/kg dry
Cobalt	---	U	180	mg/kg dry
Copper	24000		92	mg/kg dry

Project:Barth Smelting Co. - 1308036

Project Number: 1308036

Analyte	Result	Qualifier	Reporting Limit	Units
Field ID: P002-SS072-0001-001			Sample ID: 1308036-04	
Metals ICP				
Iron	31000		460	mg/kg dry
Lead	9800		73	mg/kg dry
Magnesium	---	U	4600	mg/kg dry
Manganese	5700		46	mg/kg dry
Nickel	260		180	mg/kg dry
Potassium	---	U	4600	mg/kg dry
Selenium	---	U	180	mg/kg dry
Silver	---	U	46	mg/kg dry
Sodium	---	U	9200	mg/kg dry
Thallium	---	U	180	mg/kg dry
Tin	1500		92	mg/kg dry
Vanadium	---	U	180	mg/kg dry
Zinc	65000		180	mg/kg dry
Mercury CVAA				
Mercury	1.1		0.16	mg/kg dry
Field ID: P002-SS072-0106-001			Sample ID: 1308036-05	
Metals ICP				
Aluminum	6600		940	mg/kg dry
Antimony	---	U	190	mg/kg dry
Arsenic	---	U	75	mg/kg dry
Barium	---	U	940	mg/kg dry
Beryllium	---	U	28	mg/kg dry

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Project Number: 1308036

Analyte	Result	Qualifier	Reporting Limit	Units
Field ID: P002-SS072-0106-001			Sample ID: 1308036-05	
Metals ICP				
Cadmium	140		28	mg/kg dry
Calcium	13000		4700	mg/kg dry
Chromium	---	U	47	mg/kg dry
Cobalt	---	U	190	mg/kg dry
Copper	14000		94	mg/kg dry
Iron	29000		470	mg/kg dry
Lead	4500		75	mg/kg dry
Magnesium	---	U	4700	mg/kg dry
Manganese	7500		47	mg/kg dry
Nickel	---	U	190	mg/kg dry
Potassium	---	U	4700	mg/kg dry
Selenium	---	U	190	mg/kg dry
Silver	---	U	47	mg/kg dry
Sodium	---	U	9400	mg/kg dry
Thallium	---	U	190	mg/kg dry
Tin	930		94	mg/kg dry
Vanadium	---	U	190	mg/kg dry
Zinc	53000		190	mg/kg dry
Mercury CVAA				
Mercury	0.49		0.035	mg/kg dry
Field ID: P002-SS073-0001-001			Sample ID: 1308036-06	
Metals ICP				
Aluminum	7500		910	mg/kg dry

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Project Number: 1308036

Analyte	Result	Qualifier	Reporting Limit	Units
Field ID: P002-SS073-0001-001				Sample ID: 1308036-06
Metals ICP				
Antimony	---	U	180	mg/kg dry
Arsenic	83		73	mg/kg dry
Barium	---	U	910	mg/kg dry
Beryllium	---	U	27	mg/kg dry
Cadmium	---	U	27	mg/kg dry
Calcium	4700		4600	mg/kg dry
Chromium	---	U	46	mg/kg dry
Cobalt	---	U	180	mg/kg dry
Copper	2200		91	mg/kg dry
Iron	99000		460	mg/kg dry
Lead	2500		73	mg/kg dry
Magnesium	---	U	4600	mg/kg dry
Manganese	34000		46	mg/kg dry
Nickel	---	U	180	mg/kg dry
Potassium	---	U	4600	mg/kg dry
Selenium	---	U	180	mg/kg dry
Silver	---	U	46	mg/kg dry
Sodium	---	U	9100	mg/kg dry
Thallium	---	U	180	mg/kg dry
Tin	150		91	mg/kg dry
Vanadium	---	U	180	mg/kg dry
Zinc	42000		180	mg/kg dry
Mercury CVAA				

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Analyte	Result	Qualifier	Reporting Limit	Units
Field ID: P002-SS073-0001-001			Sample ID: 1308036-06	
Mercury CVAA				
Mercury	0.18		0.030	mg/kg dry
Field ID: P002-SS073-0106-001			Sample ID: 1308036-07	
Metals ICP				
Aluminum	9400		890	mg/kg dry
Antimony	---	U	180	mg/kg dry
Arsenic	73		71	mg/kg dry
Barium	---	U	890	mg/kg dry
Beryllium	---	U	27	mg/kg dry
Cadmium	---	U	27	mg/kg dry
Calcium	9400		4400	mg/kg dry
Chromium	---	U	44	mg/kg dry
Cobalt	---	U	180	mg/kg dry
Copper	1300		89	mg/kg dry
Iron	93000		440	mg/kg dry
Lead	1300		71	mg/kg dry
Magnesium	4500		4400	mg/kg dry
Manganese	41000		44	mg/kg dry
Nickel	---	U	180	mg/kg dry
Potassium	---	U	4400	mg/kg dry
Selenium	---	U	180	mg/kg dry
Silver	---	U	44	mg/kg dry
Sodium	---	U	8900	mg/kg dry
Thallium	---	U	180	mg/kg dry

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Analyte	Result	Qualifier	Reporting Limit	Units
Field ID: P002-SS073-0106-001				Sample ID: 1308036-07
Metals ICP				
Tin	---	U	89	mg/kg dry
Vanadium	---	U	180	mg/kg dry
Zinc	38000		180	mg/kg dry
Mercury CVAA				
Mercury	---	U	0.041	mg/kg dry
Field ID: P002-SS074-0001-001				Sample ID: 1308036-08
Metals ICP				
Aluminum	7300		920	mg/kg dry
Antimony	---	U	180	mg/kg dry
Arsenic	---	U	74	mg/kg dry
Barium	---	U	920	mg/kg dry
Beryllium	---	U	28	mg/kg dry
Cadmium	---	U	28	mg/kg dry
Calcium	9000		4600	mg/kg dry
Chromium	49		46	mg/kg dry
Cobalt	---	U	180	mg/kg dry
Copper	3500		92	mg/kg dry
Iron	62000		460	mg/kg dry
Lead	2200		74	mg/kg dry
Magnesium	---	U	4600	mg/kg dry
Manganese	21000		46	mg/kg dry
Nickel	---	U	180	mg/kg dry

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Project Number: 1308036

Analyte	Result	Qualifier	Reporting Limit	Units
Field ID: P002-SS074-0001-001			Sample ID: 1308036-08	
Metals ICP				
Potassium	---	U	4600	mg/kg dry
Selenium	---	U	180	mg/kg dry
Silver	---	U	46	mg/kg dry
Sodium	---	U	9200	mg/kg dry
Thallium	---	U	180	mg/kg dry
Tin	250		92	mg/kg dry
Vanadium	---	U	180	mg/kg dry
Zinc	27000		180	mg/kg dry
Mercury CVAA				
Mercury	0.48		0.040	mg/kg dry
Field ID: P002-SS074-0106-001			Sample ID: 1308036-09	
Metals ICP				
Aluminum	6700		900	mg/kg dry
Antimony	---	U	180	mg/kg dry
Arsenic	---	U	72	mg/kg dry
Barium	---	U	900	mg/kg dry
Beryllium	---	U	27	mg/kg dry
Cadmium	---	U	27	mg/kg dry
Calcium	20000		4500	mg/kg dry
Chromium	---	U	45	mg/kg dry
Cobalt	---	U	180	mg/kg dry
Copper	1500		90	mg/kg dry

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Analyte	Result	Qualifier	Reporting Limit	Units
Field ID: P002-SS074-0106-001			Sample ID: 1308036-09	
Metals ICP				
Iron	120000		450	mg/kg dry
Lead	1400		72	mg/kg dry
Magnesium	7400		4500	mg/kg dry
Manganese	55000		45	mg/kg dry
Nickel	---	U	180	mg/kg dry
Potassium	---	U	4500	mg/kg dry
Selenium	---	U	180	mg/kg dry
Silver	---	U	45	mg/kg dry
Sodium	---	U	9000	mg/kg dry
Thallium	---	U	180	mg/kg dry
Tin	93		90	mg/kg dry
Vanadium	---	U	180	mg/kg dry
Zinc	45000		180	mg/kg dry
Mercury CVAA				
Mercury	---	U	0.039	mg/kg dry
Field ID: P002-SS075-0001-001			Sample ID: 1308036-10	
Metals ICP				
Aluminum	10000		910	mg/kg dry
Antimony	---	U	180	mg/kg dry
Arsenic	---	U	73	mg/kg dry
Barium	---	U	910	mg/kg dry
Beryllium	---	U	27	mg/kg dry

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Analyte	Result	Qualifier	Reporting Limit	Units
Field ID: P002-SS075-0001-001			Sample ID: 1308036-10	
Metals ICP				
Cadmium	31		27	mg/kg dry
Calcium	7200		4500	mg/kg dry
Chromium	60		45	mg/kg dry
Cobalt	---	U	180	mg/kg dry
Copper	3900		91	mg/kg dry
Iron	59000		450	mg/kg dry
Lead	1500		73	mg/kg dry
Magnesium	---	U	4500	mg/kg dry
Manganese	26000		45	mg/kg dry
Nickel	330		180	mg/kg dry
Potassium	---	U	4500	mg/kg dry
Selenium	---	U	180	mg/kg dry
Silver	---	U	45	mg/kg dry
Sodium	---	U	9100	mg/kg dry
Thallium	---	U	180	mg/kg dry
Tin	190		91	mg/kg dry
Vanadium	---	U	180	mg/kg dry
Zinc	42000		180	mg/kg dry
Mercury CVAA				
Mercury	0.41		0.041	mg/kg dry
Field ID: P002-SS075-0106-001			Sample ID: 1308036-11	
Metals ICP				
Aluminum	15000		870	mg/kg dry

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Analyte	Result	Qualifier	Reporting Limit	Units
Field ID: P002-SS075-0106-001				Sample ID: 1308036-11
Metals ICP				
Antimony	---	U	170	mg/kg dry
Arsenic	---	U	69	mg/kg dry
Barium	---	U	870	mg/kg dry
Beryllium	---	U	26	mg/kg dry
Cadmium	---	U	26	mg/kg dry
Calcium	26000		4300	mg/kg dry
Chromium	59		43	mg/kg dry
Cobalt	---	U	170	mg/kg dry
Copper	2300		87	mg/kg dry
Iron	59000		430	mg/kg dry
Lead	1200		69	mg/kg dry
Magnesium	10000		4300	mg/kg dry
Manganese	39000		43	mg/kg dry
Nickel	---	U	170	mg/kg dry
Potassium	---	U	4300	mg/kg dry
Selenium	---	U	170	mg/kg dry
Silver	---	U	43	mg/kg dry
Sodium	---	U	8700	mg/kg dry
Thallium	---	U	170	mg/kg dry
Tin	260		87	mg/kg dry
Vanadium	---	U	170	mg/kg dry
Zinc	36000		170	mg/kg dry
Mercury CVAA				

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Analyte	Result	Qualifier	Reporting Limit	Units
Field ID: P002-SS075-0106-001				Sample ID: 1308036-11
Mercury CVAA				
Mercury	0.14		0.040	mg/kg dry